102.5 - Copper "Benchmark" (block, chip and rod forms) [50-g units (unless otherwise noted)]

SRMs with a "C" prefix are chill-cast blocks approximately 32 mm square and 19 mm thick.

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PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

SRM	393	394	395	396	398	399	400	454	457
Description	Unalloyed Copper (Cu 0) (millings)	Unalloyed Copper (Cu I) (chips)	Unalloyed Copper II (chips)	Unalloyed Copper III (chips)	Unalloyed Copper V (chips)	Unalloyed Copper VI (chips)	Unalloyed Copper VII (chips)	Unalloyed Copper XI (chips)	Unalloyed Copper IV (solid)
Unit of Issue	(50 g)	(50 g)	(50 g)	(50 g)	(50 g)	(50 g)	(50 g)	(35 g)	(rod)
Cu (mass fraction in %)	99.998	99.908	99.944	99.955	99.98	99.79	99.70	99.84	99.96
Sb	0.25	4.5	8.0		7.5	30	102	24	0.2
As	0.41	2.6	1.6		25	47	140	46	0.2
Bi	(	0.35	0.50	0.07	2.0	10.5	24.5	19	0.2
Cr	(	2.0	6.0	4.3	(0.3)	(0.5)	(0.5)		(0.3)
Co	0.02	0.5		0.4	2.8	0.5	0.6	(4)	(0.2)
Fe	(	147	96	143	11.4	20.0	41	(50)	2.0
Pb	0.039	26.5	3.25	0.41	9.9	114	128	66	0.5
Mn	(	3.7	5.3	7.5	(0.3)	(0.3)	(0.2)		
Ni	0.05	11.7	5.4	4.2	7.0	506	603	(150)	0.6
Se	(	2.00	0.63	0.62	17.5	95	214	479	4.2
Ag	0.10	50.5	12.2	3.30	20.1	117	181	286	8.1
S	(	15	13	9.5	(11)	(10)	(9)		(4)

SRM	393	394	395	396	398	399	400	454	457
Description	Unalloyed Copper (Cu 0) (millings)	Unalloyed Copper (Cu I) (chips)	Unalloyed Copper II (chips)	Unalloyed Copper III (chips)	Unalloyed Copper V (chips)	Unalloyed Copper VI (chips)	Unalloyed Copper VII (chips)	Unalloyed Copper XI (chips)	Unalloyed Copper IV (solid)
Unit of Issue	(50 g)	(50 g)	(50 g)	(50 g)	(50 g)	(50 g)	(50 g)	(35 g)	(rod)

Te	(	0.58	0.32	(0.02)	10.1	50	153	27	0.29
Sn	(	70	1.5	0.8	4.8	(~90)	(~200)	2.2	
Zn	(	405	12.2	5.0	24	45	114	7	
Al	(	(	(	(	(	(	(		(
Cd	(	(0.5)	(0.4)	(0.6)	(22)	(	(		(
Au	(	(0.07)	(0.13)	(	(0.1)	(4)	(10)	7.5	(
Mg	(	(	(	(	(	(	(		(
Si	(	(	(	(	(	(	(		(
Be	(								

Values in parentheses are not certified and are given for information only.

102.5 - Copper "Benchmark" (block, chip and rod forms) [50-g units (unless otherwise noted)]

SRMs with a "C" prefix are chill-cast blocks approximately 32 mm square and 19 mm thick.

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B	(								
Ca	(								
Li	(								
Pd	(							(0.1)	
P	(								

SRM	**393**	**394**	**395**	**396**	**398**	**399**	**400**	**454**	**457**
Description	**Unalloyed Copper (Cu 0) (millings)**	**Unalloyed Copper (Cu I) (chips)**	**Unalloyed Copper II (chips)**	**Unalloyed Copper III (chips)**	**Unalloyed Copper V (chips)**	**Unalloyed Copper VI (chips)**	**Unalloyed Copper VII (chips)**	**Unalloyed Copper XI (chips)**	**Unalloyed Copper IV (solid)**
Unit of Issue	**(50 g)**	**(50 g)**	**(50 g)**	**(50 g)**	**(50 g)**	**(50 g)**	**(50 g)**	**(35 g)**	**(rod)**
Ti	(								
Zr	(								

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102.5 - Copper "Benchmark" (block, chip and rod forms) [50-g units (unless otherwise noted)]

SRMs with a "C" prefix are chill-cast blocks approximately 32 mm square and 19 mm thick.

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SRM	494	495	496	498	499	500	C1251a	C1253a	C1252a
Description	Unalloyed Copper I (solid)	Unalloyed Copper II (solid)	Unalloyed Copper III (solid)	Unalloyed Copper V (solid)	Unalloyed Copper VI (solid)	Unalloyed Copper VII (solid)	Phosphorus Copper Cu VIII	Phosphorus Copper X	Phosphorus Copper Cu IX
Unit of Issue	(rod)	(rod)	(rod)	(rod)	(rod)	(rod)	(ea)	(EA)	(EA)
Cu (mass fraction in %)	99.908	99.944	99.955	99.98	99.79	99.70	99.89	99.46	99.87
Sb	4.5	8.0		7.4	30	102	14.9	139	42
As	2.6	1.6		25	47	140	16	436	118
Bi	0.35	0.50	0.07	2.0	10.5	24.5	3.7	(56)	(19)
Cr	2.0	6.0	4.3	(0.3)	(0.5)	(0.5)	(3)	260	19
Co	0.5		0.4	2.7	0.5	0.6	13.2	454	87
Fe	147	96	143	11	20.0	41	285	290	72
Pb	26.5	3.25	0.41	10	114	128	23.5	243	60
Mn	3.7	5.3	7.5	(0.3)	(0.3)	(0.2)	4.6	357	43
Ni	11.7	5.4	4.2	7.0	506	603	23.6	491	128
Se	2.00	0.63	0.62	17.5	95	214	11	136	56
Ag	50.5	12.2	3.30	20.1	117	181	80	494	158
S	15	13	9.5	(11)	(10)	(9)	(35)	(50)	(70)

SRM	494	495	496	498	499	500	C1251a	C1253a	C1252a
Description	Unalloyed Copper I (solid)	Unalloyed Copper II (solid)	Unalloyed Copper III (solid)	Unalloyed Copper V (solid)	Unalloyed Copper VI (solid)	Unalloyed Copper VII (solid)	Phosphorus Copper Cu VIII	Phosphorus Copper X	Phosphorus Copper Cu IX
Unit of Issue	(rod)	(rod)	(rod)	(rod)	(rod)	(rod)	(ea)	(EA)	(EA)

Te	0.58	0.32	(0.02)	10.1	50	153	16	168	54.6
Sn	70	1.5	0.8	5	(~90)	(~200)	16	499	120
Zn	405	12.2	5.0	25	45	114	24	329	69.4
Al	(	(	(	(	(	(	(	176	(
Cd	(0.5)	(0.4)	(0.6)	(	(	(	(	70	16.9
Au	(0.07)	(0.13)	(	(0.1)	(4)	(10)	15.5	72	33.9
Mg	(	(	(	(	(	(	(	(150)	(
Si	(	(	(	(	(	(	(	(580)	(
Be									

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102.5 - Copper "Benchmark" (block, chip and rod forms) [50-g units (unless otherwise noted)]

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B			
Ca			
Li			
Pd			
P	420	561	125

SRM	**494**	**495**	**496**	**498**	**499**	**500**	**C1251a**	**C1253a**	**C1252a**
Description	**Unalloyed Copper I (solid)**	**Unalloyed Copper II (solid)**	**Unalloyed Copper III (solid)**	**Unalloyed Copper V (solid)**	**Unalloyed Copper VI (solid)**	**Unalloyed Copper VII (solid)**	**Phosphorus Copper Cu VIII**	**Phosphorus Copper X**	**Phosphorus Copper Cu IX**
Unit of Issue	**(rod)**	**(rod)**	**(rod)**	**(rod)**	**(rod)**	**(rod)**	**(ea)**	**(EA)**	**(EA)**
Ti									
Zr									

Values in parentheses are not certified and are given for information only.